

REMARKS

By this amendment, Applicants have added dependent claims 4-15 to further define the present invention. Claims 4-6 are supported by the disclosure provided at, e.g., page 15, lines 8-11 of Applicants' specification. Claims 7, 8, 10, 11, 13 and 14 are supported by the disclosure at, e.g., page 4, line 23, to page 5, line 1 of Applicants' specification. Claims 9, 12 and 15 are supported by, e.g., the disclosure at page 4, lines 20-22 of Applicants' specification.

Claim 1 stands rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,674,063 to Ozaki et al. in view of U.S. Patent 6,652,250 to Yoshimura. Applicants traverse this rejection and request reconsideration thereof.

As noted in the remarks accompanying the amendment filed September 23, 2004, the Ozaki et al. patent does not disclose and would not have suggested the presently claimed invention.

That is, the patent to Ozaki et al discloses a screw fluid machine and a screw gear used in the same. Figure 11 of this patent shows the arrangement of male and female rotors 101 and 102 in a main casing 109 and an auxiliary casing 117.

Elements 107 and 108 are rotational shafts of the male rotor and female rotor, respectively. The rotors 101 and 102 are freely rotatably supported through bearings 111 and 112 which are secured to an end plate 110 for sealing one end surface of the main casing 109, and bearings 118 and 119 which are secured to an auxiliary casing 117. Thus, bearing 118 is not for rotating and support a motor shaft, but for rotatably supporting a rotational shaft 107 of the male rotor 101. This patent does not disclose the bearing used for the motor shaft. This patent certainly does not disclose that any bearing for supporting the motor shaft is the same as the bearings for supporting the rotors.

On the other hand, claim 1 is directed to an oil free screw compressor in which the first and second bearings for supporting the male rotor and the female rotor, as well as the third bearing for rotating and supporting the motor shaft, are made the same with respect to each other. An oil free screw compressor operates to compress a large amount of gas; to do so, it is desirable to increase the rotation to a maximum rotation of, e.g., 20,000 rpm. Since motors having such a high capacity, i.e., a maximum rotation speed of 20,000 rpm, are generally not available, it has become necessary to manufacture a high speed motor for exclusively for use with an oil free screw compressor.

Applicants have found that by making the bearing for rotating and supporting the motor shaft of the same type as the bearings for supporting the male and female rotors, advantageous results can be obtained. In the first place, since the bearings used for supporting the male and female rotors of the oil free screw compressor are highly reliable, the reliability of the oil free screw compressor, including the high speed motor, can be improved. In addition, by using bearings of the same type for rotating and supporting the motor shaft and for supporting the male and female rotors, parts of the bearings can be used in common and the manufacturing cost thereof can be lowered.

Thus, as apparently now admitted by the Examiner, the Ozaki et al. patent does not disclose and would not have suggested the presently claimed invention.

The Examiner now relies on the patent to Yoshimura in rejecting claim 1. However, the Yoshimura is not prior art to the presently claimed invention. Noting that the subject application claims benefit, under 35 U.S.C. 120, of Serial No. 09/391,088 filed September 16, 1999 and that the U.S. filing date of Yoshimura is

October 16, 2001, the Yoshimura patent is not prior art under any section of 102, including 102(e). Accordingly, aside from the differences between the present invention and the disclosure of Yoshimura, the Yoshimura patent cannot be used as prior art.

Accordingly, claim 1 is patentable over the proposed combination of Ozaki et al. and Yoshimura.

Noting that the Yoshimura patent is not prior art (for the reasons noted above), the rejection of claim 1 under 35 U.S.C. 103(a) over Yoshimura in numbered section 3 of the Office Action must be withdrawn.

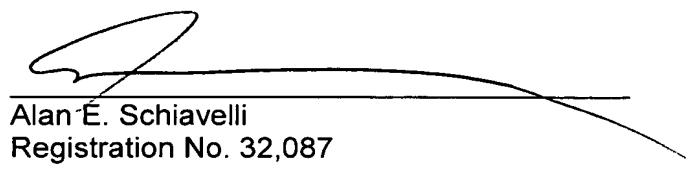
Applicants note the indication that claims 2 and 3 are allowed.

In view of the foregoing amendments and remarks, favorable reconsideration and allowance of all of the claims now in the application are requested.

To the extent necessary, applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in the fees due in connection with the filing of this paper, including extension of time fees, to the deposit account of Antonelli, Terry, Stout & Kraus, LLP, Deposit Account No. 01-2135 (Case: 500.37529CC3), and please credit any excess fees to such deposit account.

Respectfully submitted,

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Attachment